

ALASKA NURSE PRACTITIONER PRACTICES REGARDING ADOLESCENT INDOOR TANNING

A
PROJECT

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Abstract

Skin cancer is the most prevalent form of cancer in the United States and melanoma is the second most common form of cancer in adolescents. Indoor tanning increases the risk of skin cancer especially when exposure begins at an early age. A significant percentage of adolescents indoor tan beginning at an early age. Guidelines recommend that clinicians address indoor tanning use and avoidance behaviors with adolescents and their guardians. The purpose of this project is to assess Alaska nurse practitioner practices regarding adolescent indoor tanning and to provide nurse practitioners with evidence-based tools for counseling that are current with clinical recommendations. Alaska nurse practitioners (N = 177) were surveyed on practices regarding adolescent indoor tanning, compliance with current recommendations, barriers preventing assessment and education, and awareness of, and support for, a minor indoor tanning ban in Alaska. Findings show that more than half of respondents do not ask adolescents about indoor tanning use and do not educate adolescents or their guardians regarding the associated risks and that one third of respondents feel that indoor tanning is of low priority. Additionally, nurse practitioners are not utilizing counseling tools sufficiently and are not employing evidence-based techniques when they do; in regards to supporting legislation for change, the majority of them would support an indoor tanning ban for minors in Alaska.

Keywords: nurse practitioner, adolescent, practice, indoor tanning, skin cancer

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Alaska Nurse Practitioner Practices Regarding Adolescent Indoor Tanning

Skin cancer (SC) is the most prevalent form of cancer in the United States and melanoma is the second most common form of cancer in adolescents (American Cancer Society, 2014; National Cancer Institute, 2015). Ultraviolet radiation (UVR) exposure is the most important contributing factor to the development of SC (Whiteman, Pavan, & Bastian, 2011). Indoor tanning (IT) is associated with an increased risk of melanoma and non-melanoma SC and risk increases with repeated exposure; thus, the risk of SC increases when exposure begins at an early age (Boniol, Autier, Boyle, & Gandini, 2012; Wehner et al., 2012). Studies have demonstrated that approximately 20% of female adolescents and 5% of male adolescents had tanned indoors in the past year and that the behavior often begins before the age of 25 (Guy et al., 2014; Kann et al., 2014). The high prevalence of IT among white adolescents is particularly concerning given the elevated risk of SC in individuals with fair skin; in fact, the lifetime risk of having melanoma is 1 in 50 for whites (American Cancer Society, 2014). Furthermore, adolescence is characterized by exploration, experimentation and high susceptibility to the initiation of high-risk behaviors that have adverse outcomes in later life (Brio & Deardorff, 2013). Thus, adolescence presents a critical opportunity for NPs to prevent disease. A review of the literature was conducted to determine clinician practices regarding adolescent IT, pertinent guidelines or recommendations, and the significance, prevalence, and behavioral influences of IT among adolescents.

Existing recommendations are for clinicians to address IT use and avoidance behaviors with adolescents and their guardians (Alberta Health Services, 2016; Centers for Disease

Control and Prevention (CDC), 2015; Moyer, 2012; U.S. Department of Health and Human Services, 2014). Studies that have assessed provider practices regarding adolescent IT are limited and their findings suggest that adolescent IT has not been adequately addressed by clinicians (Cohen, Brown, Haukness, Walsh, & Robinson, 2013; Furfaro, Bernaix, Schmidt, & Clement, 2008; Hession, 2013; Lucas, 2014; Roebuck, Moran, MacDonald, Shumer, & McCune, 2015). This project seeks to answer the following questions: (a) what are Alaska Nurse Practitioner practices regarding adolescent IT? (b) how do current practices compare with recommendations? (c) what barriers prevent assessment and education regarding IT? (d) what is the awareness of, and support for, IT legislation among NPs in the state of Alaska. The purpose of this project is to determine a need for improved Nurse Practitioner (NP) practices and, if indicated, to provide Nurse Practitioners (NPs) with evidence-based tools for change which are current with clinical recommendations regarding adolescent IT.

In this project, the term adolescent refers to individuals 11 to 21 years of age, based on the American Academy of Pediatrics classification of adolescence as ages 11 through 21 (Hagan, Shaw & Duncan, 2008a); the term IT refers to the various terms used in the literature referring to non-solar UVR forms of IT including tanning beds, tanning booths, and sunbeds.

Significance of the Problem

SC arises from a complex interaction of internal and external factors that influence the incidence, clinical characteristics, and oncogenic pathways of cancer development (Grossman & Porth, 2014). External factors include exposure to UVR from sunlight, as well as non-solar sources of UVR, such as IT devices. IT devices emit UVR at much higher levels than sunlight (Lim

et al., 2011). IT is a modifiable behavior and therefore, a preventable risk factor for SC. Even though there are several types of SC, this project will focus on melanoma and the two most common subtypes of non-melanoma SC (NMSC): basal cell carcinoma (BCC) and squamous cell carcinoma (SCC).

Melanoma is less prevalent than NMSC, but it is responsible for the majority of SC-related deaths (Siegel, Naishadham, & Jemal, 2013). In the U.S., melanoma is the fifth leading cancer in males and the seventh in females (Siegel et al., 2013). Incidence of melanoma in adolescents has been decreasing (Campbell et al., 2015; Siegel et al., 2014), yet melanoma is the second most common form of cancer in ages 15 to 29 (National Cancer Institute, 2015), and adolescents ages 15 to 19 account for 73% of pediatric cases of melanoma (Campbell et al., 2015). Mortality rates associated with NMSC are low compared to melanoma; however, it is the most common cancer in white individuals and worldwide incidence is increasing (Lomas, Leonardi-Bee, & Bath-Hextall, 2012).

Introduction

Increased Risk for Melanoma and NMSC

The Bradford Hill Criteria is a standardized assessment tool used to assess causality based on nine epidemiological and statistical criteria when only correlational data are available (Hill, 1965). IT was determined to have a causal relationship with SC in a paper demonstrating that both met all but one of the nine Bradford Hill criteria for evaluating causal relationships (Karimkhani, Boyers, Schilling, & Dellavalle, 2015). Boniol et al. (2012) conducted a systematic review and meta-analysis on the risk of melanoma related to IT. After combining results with a

prior meta-analysis, cases of melanoma ($N = 11,428$) were analyzed from 32 international studies between 1981 through 2012. The analysis determined three key findings: (a) that previous IT increased the risk of melanoma by 20%, (b) that melanoma risk increased by 1.8% with each additional tanning session, and (c) that IT prior to the age of 35 increased the risk of melanoma by 59% (Boniol et al., 2012).

Wehner et al. (2012) conducted the largest systematic review and meta-analysis of the relationship between IT and the two most common types of NMSC, BCC and SCC. Data from 1977 to 2010 were collected from 12 studies in six countries totaling 80,661 cases of NMSC. This was the first study to find a positive association between IT and BCC. It also determined that a history of previous IT increased the risk of BCC by 29% and that IT before the age of 25 increased the risk of BCC by 40%. In accordance with prior findings, the researchers also found that a history of IT increased the risk of SCC by 67% and that IT before the age of 25 increased the risk of SCC by 102% (Wehner et al., 2012).

Prevalence

Kann et al. (2014) showed that 12.8% of high school (HS) students ($N = 13,583$) had tanned indoors in the past year using 2013 data from the Youth Risk Behavior Survey (YRBS). YRBS is the largest public health surveillance system in the U.S. used to assess health behaviors in HS students. This data represents national trends over time and can be used to analyze state-specific data. The survey includes a set of required questions and additional optional questions that states can decide to include on their state-based questionnaire. The IT use question was only required at the national level and was not selected for inclusion in Alaska;

furthermore, no studies evaluating IT prevalence in Alaska were found in the literature; for this reason, Alaska-specific data on IT use is not available (Kann et al., 2014). Mayer et al. (2011) also found that 10.4% of U.S. adolescents between the ages 14 to 17 had tanned indoors in the past year. An international meta-analysis by Wehner et al. (2014) also determined that 18.3% of adolescents had IT in the past year. These studies indicate that a significant number of adolescents are participating in IT in the U.S.

Age of Initiation

The literature findings confirm a high prevalence of adolescent IT and clear evidence that adolescents begin IT at a young age. Lostritto et al. (2012) determined that females began IT at a median age of 17 and males at 21.5. Two studies (Guy et al., 2014; Kann et al., 2014) demonstrated that about 14% of females and 5% of males were IT by 9th grade. Mayer et al. (2011) found that 8.5% of 14-year-old girls had been IT in the past year.

Associated Factors

Gender. Males have the highest incidence of melanoma and are more likely to die from melanoma (CDC, 2013). However, in 15 to 39 year-olds, males account for 40% of melanoma cases while females account for the remaining 60% (Fisher, 2013). It is important to note that the most significant correlate of adolescent IT is gender. Research consistently demonstrates that adolescent females IT significantly more often than adolescent males. YRBS 2013 data showed that 20.2% of female HS students IT in the previous year, versus 5.3% of male HS students (Kann et al., 2014). Guy et al. (2014) conducted a study combining data from both the 2009 and 2011 YRBS, which showed that 23.4% of female HS students tanned indoors in the

past year compared with 6.5% of male HS students, further supporting the findings by Kann et al. (2014).

An international systematic review and meta-analysis ($N = 491,492$) focused on prevalence rates of IT within gender and age groups (Wehner et al., 2014). The review included 23 studies focused on adolescents and found that 32% of females had previously participated in IT compared to 14% of males and that 21% of females had been IT in the past year versus 8% of males. One limitation of this meta-analysis was the inclusion of convenience sample studies and studies with small sample sizes (Wehner et al., 2014). Additionally, in a study to evaluate social, environmental, and policy-related correlates of adolescent IT habits, Mayer (2011) found that 17% of female adolescents 14 to 17 years old had used IT in the past year compared to 3% of males in the same age group. Similarly, females were frequently and consistently found to be significantly associated with adolescent IT in a systematic review of 14 studies assessing correlates of IT use in adolescents between the ages of 8 and 18 over a decade (Holman & Watson, 2013).

Race. U.S. melanoma incidence rates for non-Hispanic white adolescents under the age of 19 were 70% greater than non-Hispanic blacks and almost 60% higher compared to Hispanics (American Cancer Society, 2014). Non-Hispanic white adolescent females have the highest risk of SC (CDC, 2013). Kann et al. (2014) reported the prevalence of IT was higher in white students (18%) compared to black students (3%) or Hispanic students (6%) with the highest prevalence in white females (31%) compared to 8% in Hispanic females, and 3% in black females. Mayer (2011) also found that non-Hispanic whites were more likely to have IT in the

past year than any other racial category. It is interesting that Holman and Watson (2013) also noted that three out of the 14 studies in the literature reported that non-Hispanic whites participated in IT significantly more than other racial groups.

Access. Hoerster et al. (2009) determined IT facility density in 116 large U.S. cities in March 2006 based on U.S. Census 2000 data. IT facilities were located using the key phrase “tanning salon” in two Internet business-listing search engines and all public IT establishments within 3 miles of each city boundary were included. Density was found to be higher in cities with a predominant Caucasian population and low UV Index scores. The UV index is used as forecast tool to assess the risk of exposure to UV radiation from the sun on a scale from zero (low risk) to 11 or more (extremely high-risk) (U.S. Environmental Protection Agency (EPA), 2015). Nationwide mean facility density per capita was 11.8 and Anchorage facility density per capita was 11.1 placing it in the top half within their geographic region, with more facilities than Phoenix, Los Angeles, or San Francisco. No other studies were identified in the literature assessing the density of IT facilities.

Mayer et al. (2011) conducted a study ($N = 6125$) to determine adolescent IT rates, correlates of IT use, association with facility access, and correlation between state laws and IT use. Mayer et al. utilized data collected by Hoerster et al. (2009) limiting city inclusion to the top 100 most populated U.S. cities in order to evaluate the impact of facility access on IT rates. Mayer et al. determined that there were an average of 42 IT facilities per city, exceeding the number of local Starbucks and McDonalds. Comparatively, 29 public IT facilities were identified in Anchorage in 2006, compared to 11 McDonald’s and three Starbucks. Facility density was

significant in the univariate test, but was not a significant predictor of adolescent IT in the multivariate analysis; however, proximity to IT facilities was highly predictive of IT use. Living within two miles of an IT facility increased IT rates by 40%. Furthermore, 76% of adolescents lived within a two mile radius of a tanning salon. This is the only study identified which addressed the impact of proximity to IT use. Limitations included reliance on self-reporting of behaviors and a lack of rural or small city representation (Mayer et al., 2011).

Behavioral Influences

Parental behavior. Several factors appear to influence adolescents' decision to IT. The most significant psychosocial correlate of adolescent IT is parental modeling. Adolescents were 70% more likely to IT if they had a parent who IT themselves (Mayer, 2011). Permissive parental attitudes regarding IT also had a significant impact. Mayer found that adolescents were five times more likely to artificially tan if they perceived that their parents allowed IT. Cohen et al. (2013) conducted a study to test the effect of sun-protective counseling on the sun-protective behaviors of children 9 to 16 years of age. Eligible parents ($N = 301$) participated in a survey in which they reported on the sun-related behaviors of their children. Sun-protection counseling was not associated with sun-protective behaviors in the children; however, multivariate analysis found a significant association between child sun-protection and parental behavior. Parental behaviors significantly associated with a child who was not adequately protected from the sun were, number of sunburns the parent sustained over the summer of the study, number of times the parent had participated in IT over the past year, low

parent perception of their own risk for SC, and low parent confidence in knowing the best sun-protective behaviors for their child (Cohen et al., 2013).

Social norms. Perceived social norms, peer influence, and body image also impact the frequency of adolescent IT. Benoit (2012), Mayer (2011), and Holman and Watson (2013) all found that IT frequency increased with the number of friends adolescents perceived to indoor tan and determined that adolescents who had a preference for tan skin were more likely to IT. Several studies reported that adolescents who were concerned about weight loss, dieting, or who were also using sunless tanning products were more likely to IT as were those with friends who placed a high importance on being thin (Holman & Watson, 2013).

Socioeconomic factors. Socioeconomic factors such as income and level of completed education may also influence IT behaviors in adolescents. Mayer (2011) noted that rates of IT increased linearly with the amount of allowance adolescents received from their parents and that level of completed education was inversely related to persistent tanning behavior. Lostritto (2012) also noted that women with a bachelor's level education were 70% less likely to persistently IT than those without a bachelor's degree. Holman and Watson (2013) reported that two review studies found an association between IT use and adolescent personal income and allowance.

High-risk behaviors.

IT has also been associated with participation in other high-risk behaviors such as tobacco, alcohol, and recreational drug use, an unhealthy diet or poor sun protection behaviors. Holman and Watson (2013) noted that six of the 14 studies assessed in the

systematic review of the literature reported an association between IT and high-risk behaviors. Females who persistently tanned indoors reported significantly higher levels of alcohol intake prior to the age of 25 than non-persistent tanners (Lostritto, 2012).

Clinical Recommendations

The U.S. Preventive Services Task Force (USPSTF) established provider practice recommendations to prevent SC in children, adolescents, and young adults ages 10 to 24. (Moyer, 2012). The three pertinent recommendations are for clinicians to provide: (a) risk assessment of fair skinned individuals due to elevated risk for SC, (b) behavioral counseling based on appearance-focused messages accomplished within the primary care visit, and (c) interventions that address behavior change to avoid the use of IT. The recommendations are based on adequate evidence that primary care counseling interventions can increase sun-protective behaviors for adolescents (Moyer, 2012). Appearance-focused messages promote information about how IT actually harms the appearance through premature skin aging and by creating fine lines, wrinkles, sagging, thick, dry skin, brown spots or discoloration (Hillhouse, Turrisi, Stapleton, & Robinson, 2008; Stapleton, Turrisi, Hillhouse, Robinson, & Abar, 2010).

In 2014 the U.S. Surgeon General issued the *Call to Action to Prevent Skin Cancer*, a comprehensive effort to prevent SC supporting the USPSTF recommendations and urging clinicians to provide interventions during primary care visits using appearance-focused messages (U.S. Department of Health and Human Services (DHHS), 2014). One of the overarching goals in *Healthy People 2020* is to reduce rates of cancer and a primary objective is to reduce the rate of adolescents in grades 9 through 12 who tan indoors by addressing IT at

multiple levels including individual, family, and social, home or employment factors, as well as economic, cultural, environmental, and health factors (U.S. DHHS, 2014). The model requires multidisciplinary collaboration, and coordination at the national, state, and local levels. To this end, the CDC encourages the use of appearance-focused messages and IT risk education including, (a) advising adolescents that a base tan is not protective against a future sunburn; (b) that the only safe way to get enough vitamin D is through foods and supplementation, especially as the amount of UV exposure needed to get enough vitamin D is difficult to measure; (c) of potential eye blinding diseases if eye protection is not used while IT; and (d) of possible skin infections like rashes or warts (CDC, 2016a; CDC, 2016b; CDC, 2015).

CancerControl Alberta are comprehensive provider guidelines that are similar to the USPSTF guidelines, recommending counseling children, adolescents, and young adults through age 24 to avoid IT, recommending against tanning for vitamin D supplementation, and encouraging provider advocacy for IT restriction legislation (Alberta Health Services, 2016).

Gaps in Best Practice

The clinical recommendations emphasize that providers should address IT with adolescents during primary care visits yet, the Bright Futures initiative of the American Academy of Pediatrics (AAP) does not include IT in the Previsit Questionnaire for the 15 to 17 year visit, in the guidelines (Hagan, Shaw, and Duncan, 2008a), or in the Pocket-Guide (Hagan et al., 2008b). The Bright Futures program is considered the cornerstone approach for clinical practice, designed to streamline prevention and health-promotion practices when caring of adolescents and their families (AAP, 2015).

Indoor Tanning Legislation

The Department of Health and Human Services and the World Health Organization classify tanning beds as carcinogens, giving them the highest risk category available (WHO, 2014). The U.S. Food and Drug Administration (FDA) initiated a black box warning for tanning beds stating that persons under the age of 18 should not use them (U.S. SFDA, 2015) and in 2011 the Internal Revenue Service enacted a 10% tax on IT services (U.S. Government Publishing Office, n.d). Eleven countries ban IT for minors including the United Kingdom, France, Germany, and Spain (AIM at Melanoma Foundation, 2014). However, there are no federal laws restricting adolescent access to IT in the U.S. where regulation is conducted at the state level. California was the first state to ban IT for minors and now, it is banned in 13 states and regulated to some degree in 42 states and in the District of Columbia; conversely, Alaska state law has no restrictions on IT (National Conference of State Legislatures, 2016). The *Healthy People 2020* action model demonstrates that policies are a key component of the intervention piece of the determinants of health (U.S. DHHS, 2014). In 2015, the FDA issued two proposed rules, one would restrict IT for minors under the age of 18 while the second would initiate further safety measures on IT manufacturers and IT facilities (U.S. FDA, 2015). It is unknown when the FDA will finalize a decision on the proposed rules or what the outcomes will be.

Relevance in Alaska

Proximity to IT facilities was highly predictive of adolescent IT use (Mayer et al., 2011) and IT facility density was highest in cities with a predominantly Caucasian population and

lower UV Index scores (Hoerster et al., 2009). Average UV index values in Alaska are low (less than one) in the winter and moderate (three to four) in the summer (U.S. EPA, 2004) and it is estimated that 67% of the population in Alaska is white (U.S. Census Bureau, 2015). Furthermore, IT facility density in Anchorage was in the top half for their region when compared to other large cities in the U. S (Hoerster et al., 2009).

Literature Review

An initial search of CINAHL, PubMed, and Google Scholar databases was conducted for literature published between 2008 and 2015 utilizing the keywords indoor tanning, and provider practices producing zero results. A further search was conducted with broad keyword combinations including melanoma, provider practices, screening, indoor tanning, counseling, and adolescents that resulted in a large amount of literature related to SC, melanoma, and indoor tanning. Search results were reviewed individually to identify pertinent provider-practice articles. On the contrary, literature on clinical practices pertaining to adolescent IT is sparse; five relevant studies were identified determining that assessment of adolescent IT use and IT preventative counseling and education was not offered or conducted by healthcare providers (Cohen et al., 2013; Furfaro et al., 2008; Hession, 2013; Lucas, 2014; Roebuck et al., 2015).

Hession (2013) assessed the attitudes of pediatricians toward adolescent IT in three districts of the state of New York via a convenience sample on-line survey. Survey response rate was 5%. Of the pediatricians ($N = 137$) who responded, 45% counseled adolescent patients about IT 1% of the time, while only 4% of them provided counseling 50% or more often. This

particular study inquired as to the use of relevant printed materials and 3% of pediatricians provided materials and 4% of them had materials available in the waiting rooms. Limitations included a low response rate, a limited sample size, limited demographic data on non-responders, and use of a survey that had not been validated. Despite limitations, Hession concludes that there is a need for greater clinician involvement in adolescent IT prevention strategies and for further legislative action.

A descriptive study on the knowledge and preventative practices of NPs in Illinois and California regarding melanoma was conducted by Furfaro et al. (2008). NPs were selected via purposive random sampling via a listserv from the American Academy of Nurse Practitioners. NPs ($N = 93$) completed a 57-item self-administered questionnaire, plus 15 demographic questions. Questions addressed patient education frequency via a four point Likert scale ranging from “never” to “always”. One question asked specifically about the frequency of IT patient education provided. Furfaro et al. determined that the majority of the NPs were providing patient preventative education regarding IT only occasionally.

Cohen et al. (2013) compared the effect of sun-protective counseling on the sun-protective behaviors of children 9 to 16 years of age. A combination of pediatricians, NPs, nurses, and nursing assistants ($N = 30$) were interviewed through convenience sampling at three Chicago clinics with a 90% participation rate. Providers reported utilizing verbal counseling and brochures related to general sun protection about 25% of the time. Counseling was completed primarily in the spring and summer and was prompted by parent questions, performing a summer camp physical, or the child having an existing sunburn. Cohen et al.

(2013) discussed the lack of preventative anticipatory guidance. Study limitations included, a small sample size, limited geographic region, possible biased population sample based on offices included, a non-heterogeneous sample comprising mostly of non-Hispanic white patients, and the pre-existing limitation of self-reported behaviors by clinicians subject to recall bias.

A study by Roebuck et al. (2015) found similar results to the other studies while looking at NP (N = 272) practices regarding SC. While focus was not specifically about adolescents or about IT, the survey included one question regarding the frequency of IT education provided and found that 25% of NPs were never providing education, 32% occasionally, 25% frequently, and only 17% always. Additionally, time was the number one barrier to education and 84% of NPs wanted additional SC learning activities.

A final study (Lucas, 2014) looked at NP practices regarding SC prevention in adolescents. NPs (N = 39) were asked how frequently they provide SC prevention counseling, how often they assess UV exposure, if they followed guidelines, and whether they provided resources regarding skin cancer prevention education. NPs reported providing counseling and assessing UV exposure about half of the time, following the guidelines less than half of the time, and providing prevention materials rarely. The findings are particularly interesting since the NPs agreed that counseling would change adolescent behavior and would reduce cancer risk. However, they also felt that SC was of moderate priority in their practice (Lucas, 2014).

Methods

This project was preformed using a quantitative descriptive design and to meet the project goals and objectives, a survey was conducted via a statewide sample of licensed NPs from all specialties in both urban and rural regions of Alaska. The survey (see Appendix A) was designed using SurveyMonkey software (2015) and a paper form was disseminated by mail. Names and physical addresses of NPs were obtained from the State Department of Commerce Division of Occupational Licensing public records. All NPs with addresses in the state were included while those with addresses outside the state were excluded. Surveys were mailed to NPs via the U.S. Postal Service in March of 2015. The packet included a cover letter (see Appendix B), the consent (see Appendix C), the survey, and a self-addressed stamped envelope. NPs were encouraged to complete and return the survey within one month.

The survey was self-administered and consisted of a six-item provider practice and opinion questionnaire as well as a nine-item demographic questionnaire. The survey included questions regarding provider practice, provider knowledge, and opinion questions. The demographic items included: gender, degree level, current practice status, years in practice, primary practice area, percentage of patients who are adolescents, type of setting, primary client population race or ethnicity, and availability of IT facilities in region of practice. Four faculty members of the University of Alaska Anchorage School of Nursing as well as five NP cohort classmates validated the modified survey instrument for this project for content and readability. All participants completed the final survey within 10 minutes. This project proposal was approved by the University of Alaska Anchorage Institutional Review Board (IRB).

The survey asked NP respondents about the following: a) their understanding of current Alaska law regarding IT; b) how often they educated adolescents regarding IT, how often they asked adolescents about IT use, and how often they educated parents/guardians regarding IT; c) whether they agreed that education or counseling could influence adolescent IT behaviors, whether they agreed that IT was a priority concern among adolescents or in their region, and whether they would support an IT ban in Alaska; d) what prompted them to inquire or educate about IT; e) what barriers prevent them from educating about IT, and which tools or types of interventions they had used to address IT with adolescents. Provider practice and belief data was collected using five-item Likert scales for frequency (Almost never to almost always) and degree of belief (Strongly disagree to strongly agree). Sample characteristics were analyzed using descriptive statistics.

Survey participation was voluntary with no compensation, no foreseeable risks, and required approximately 10 minutes for completion. The surveys were unmarked and unnumbered. No names or identifiers were collected or attached to responses. Survey data was only available to the principal investigator and committee members, and every effort was made to maintain confidentiality. Consent for this project was implied with the completion and return of the survey. Consent was clearly addressed in the cover letter stating that completion and return of the survey indicates participant understanding and consent to participate in the project.

Results

Sample Characteristics

The self-administered survey was mailed to 655 NPs. A total of 177 surveys were returned for a 27% response rate. Data analysis was performed using SPSS version 23 in order to describe the sample and address the research questions. Six percent of the surveys were incomplete, and thus reported statistics are based on the valid percent of participants who answered each question. The sample consisted primarily of females (92.5%; $n = 174$), most had a master's degree (85.6%; $n = 174$), were currently practicing as NPs (94.8%; $n = 174$) in family practice (48%; $n = 173$), and in an urban location (61.3%; $n = 168$). Table 1 displays the demographic characteristics of the sample. The majority of respondents reported IT facilities in their community (87.7%; $n = 171$) and adolescents made up 25% or less of their client population (80.2%; $n = 167$). Furthermore, they estimated that the predominant race of their clients was white or Caucasian (46.4%), of multiple races (32.7%), or Alaska Native/American Indian (20.2%) respectively ($n = 168$), and the mean number of years in practice was 15.5 (range = 0.25-48 years; $n = 167$).

Provider Practices

NPs were asked to indicate how often they asked adolescent patients about IT use, how often they educated adolescent patients regarding the dangers of IT, as well as how often they educated parents or guardians about IT. More than half (69.5%; $n = 174$) of respondents answered that they almost never or only occasionally inquire about adolescent IT use (see Figure 1). Similarly, 66.6% of respondents almost never or only occasionally educated

Table 1

Participant Demographics

Characteristics	n	%
Gender (n = 174)		
Female	161	92.5
Male	13	7.5
Highest degree earned (n = 174)		
Masters	149	85.6
Doctorate	19	10.9
Other	6	3.4
Currently practicing	174	94.8
Setting (n = 173)		
Family practice	83	48.0
Women's health	42	24.3
Acute care/Urgent care	23	13.3
Psych/Mental health	18	10.4
Pediatrics	12	6.9
Other	60	34.7
Percent Client population that are adolescents (n = 167)		
<10%	75	44.9
10-25%	59	35.3
25-50%	21	12.6
>50%	12	7.2
Location (n = 168)		
Urban	103	61.3
Suburban	32	19.2
Rural ON road system	24	14.3
Rural OFF road system	22	13.1
Other: Multiple locations/Variable	6	3.6
Predominant race/ethnicity of clients (n = 168)		
White/Caucasian	78	46.4
Multiple races	55	32.7
American Indian/Alaska Native	34	20.2
Asian/Pacific Islander	1	0.6
Presence of indoor tanning facilities in area of practice (n = 171)		
Yes	150	87.7
No	13	7.6
Unsure/Don't Know	8	4.7
	<i>M</i>	<i>SD</i>
Years in Practice	15.5	10.9

adolescents regarding the risks associated with IT. An even greater percentage of NPs (71.9%) indicated that they almost never or only occasionally educated parents or guardians regarding IT. Provider practices related to sunblock education were also assessed showing that 13.3% of NPs almost always conducted sunblock education and that 18.5% almost never conducted sunblock education.

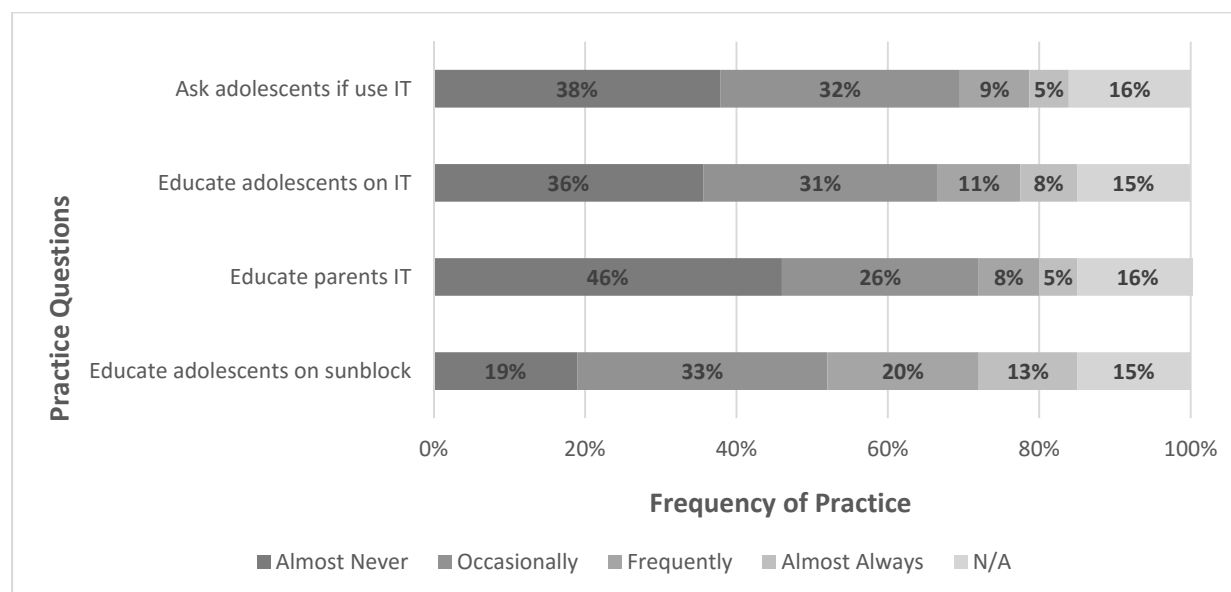


Figure 1. Four survey questions asked respondents to rate the frequency with which they conducted the following practices regarding indoor tanning (IT) ($n = 174$).

Provider Beliefs

Provider attitudes regarding IT are presented in Figure 2. Half (50%; $n = 169$) of NPs agreed or strongly agreed that IT is a priority health concern regarding adolescents. Beliefs regarding their ability to influence IT behavior through education or counseling were primarily surepositive, with 67.2% of NPs indicating that they agreed or strongly agreed that educating or counseling adolescents can influence IT behaviors. In addition, the majority of respondents

(59.8%) either agreed or strongly agreed that they would support an IT ban for minors in Alaska.

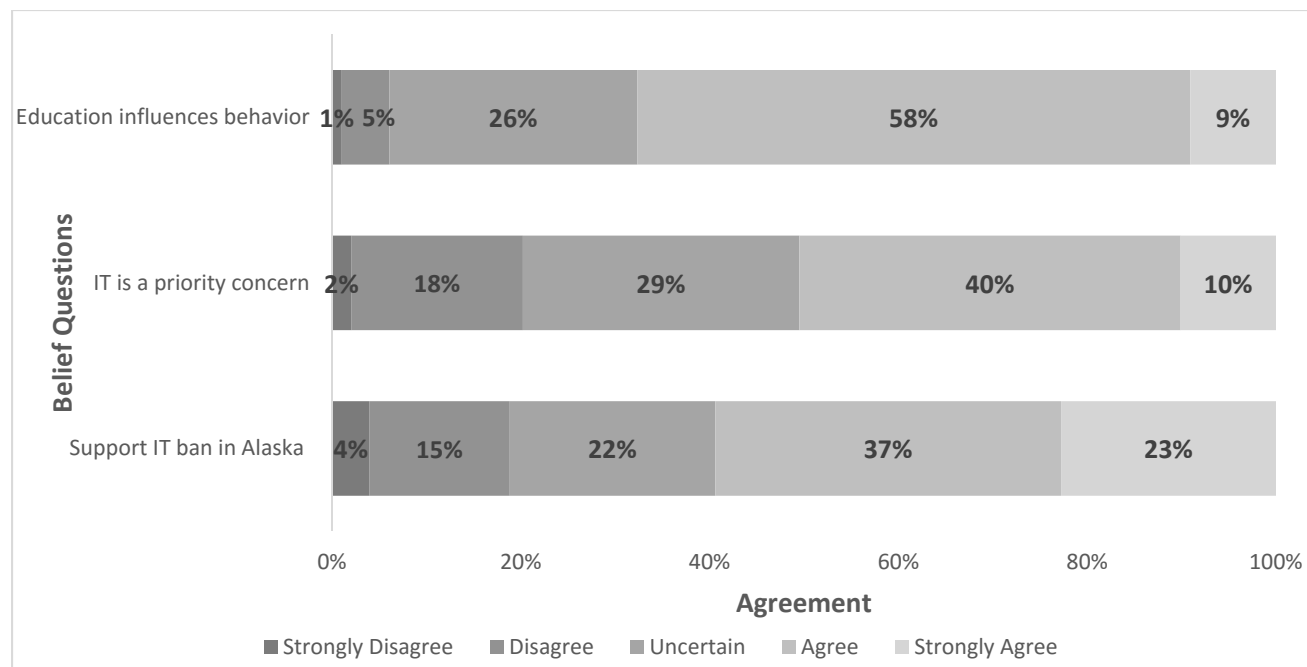


Figure 2. Four survey questions asked respondents to rate the degree with which they agreed with the following statements to assess provider beliefs regarding indoor tanning (IT) (n = 169).

Factors which Prompt Inquiry or Education

NPs were asked to indicate what motivated them to ask adolescents about IT use or what prompted them to educate adolescents about IT. Respondents were most likely to ask or to educate if they noticed sunburned or unusually tanned skin during a visit (62.1%; $n = 174$). NPs were also prompted to inquire or educate adolescents, if either the adolescent or parent asked about IT (46%) or, if they were specifically doing a skin assessment visit (41.4%). Still, 24.1% of NPs responded that they do not usually inquire about IT and only 11.5% reported doing so as part of their routine or well-child exams. A summary of the responses can be found in Figure 3.

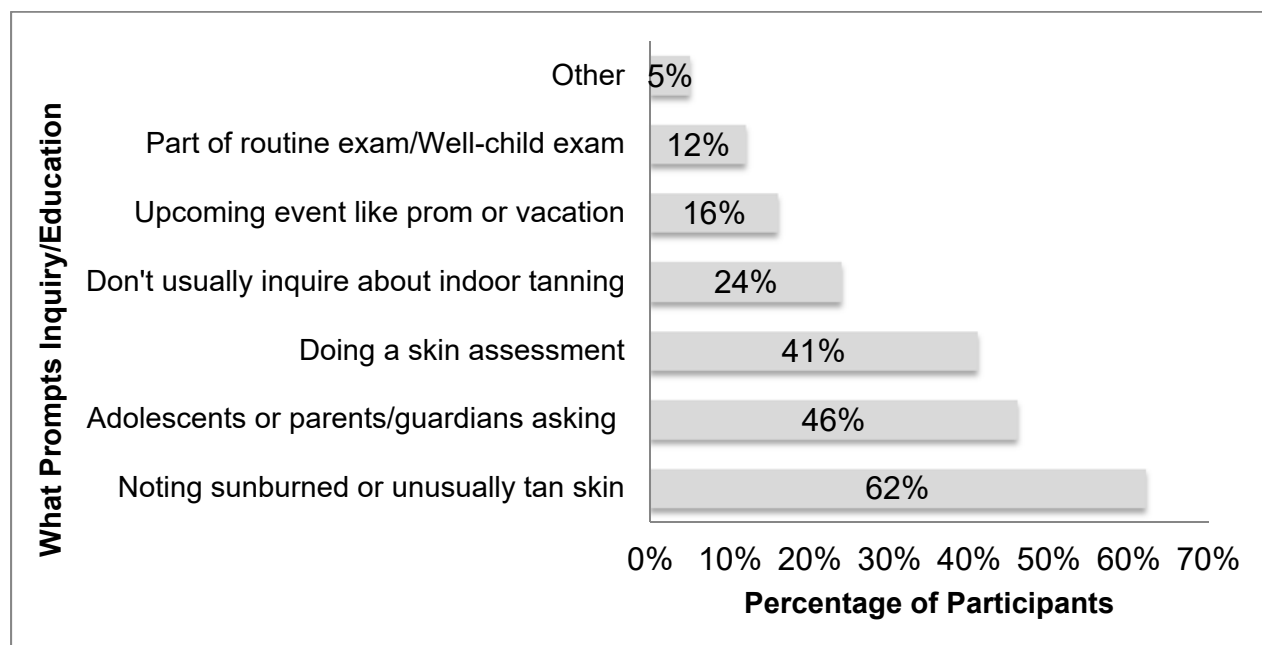


Figure 3. NPs were asked to indicate what factors prompt or motivate them to ask about adolescent indoor tanning use or to educate adolescents regarding indoor tanning ($n = 174$). Respondents could select all that applied.

Barriers to Education

Almost one-third (30.6%, $n=173$) of respondents felt that there were no barriers to asking about IT use or to providing IT education (see Figure 4). Time was perceived as a barrier by only 17.9% of the respondents. Nonetheless, one third (29.5%) felt that IT was of low priority compared to other more important topics and one quarter (24.9%) felt that IT was of low priority in their geographic area.

Counseling and Education Tools

NPs were asked to specify what tools they had used to educate adolescents regarding IT; 44.3% ($n = 174$) indicated not utilizing any tools, while 42.5% indicated that they had used SC education as a tool (see Figure 5). Only 10% had used a generic sun-protection education pamphlet, 5% appearance-focused messages, and 2% an IT-specific handout (2%).

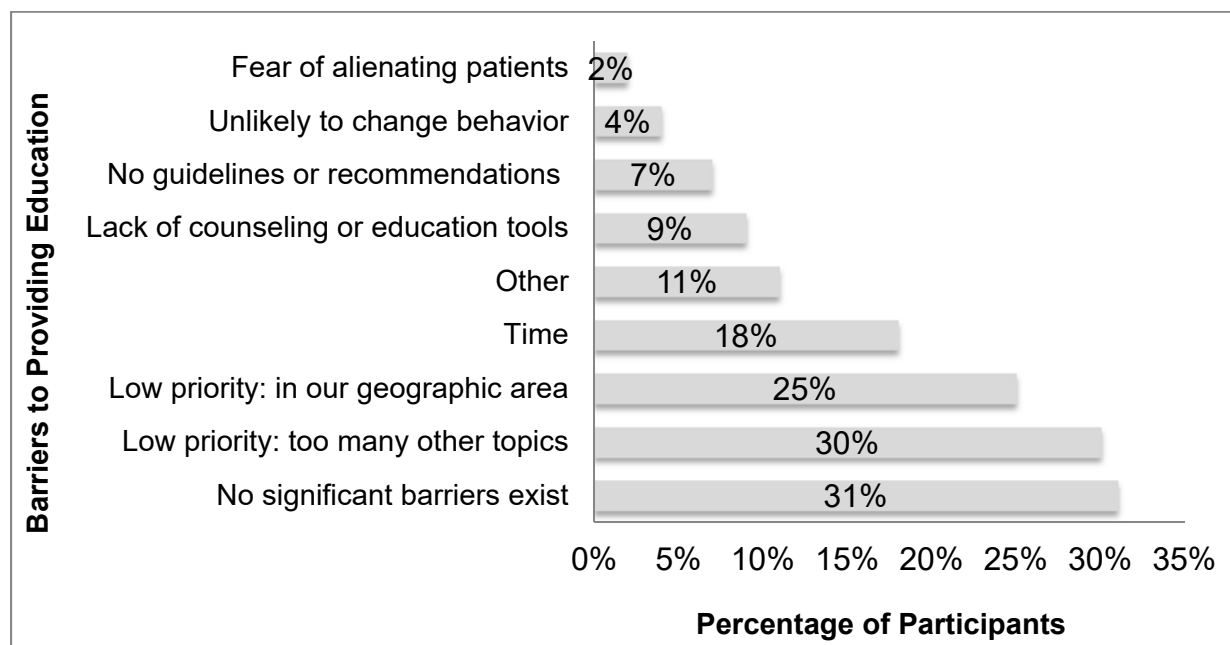


Figure 4. NPs were asked to indicate what barriers prohibit providing indoor tanning education to adolescent patients ($n = 173$). Respondents could select all that applied.

Awareness of Alaska Indoor Tanning Law

Figure 6 reports participant responses regarding their understanding of current Alaska IT law. More than half of respondents (55.3%, $n = 168$) were either unaware of current Alaska IT law (9.5%) or did not have an accurate understanding of it (45.8%). Less than half of the respondents (44.6%) accurately selected that there are no IT restrictions in Alaska. However, almost half (45.8%) of respondents inaccurately indicated that restrictions such as parent or guardian permission or accompaniment, or even prohibition for minors under the age of 18, were in place in Alaska.

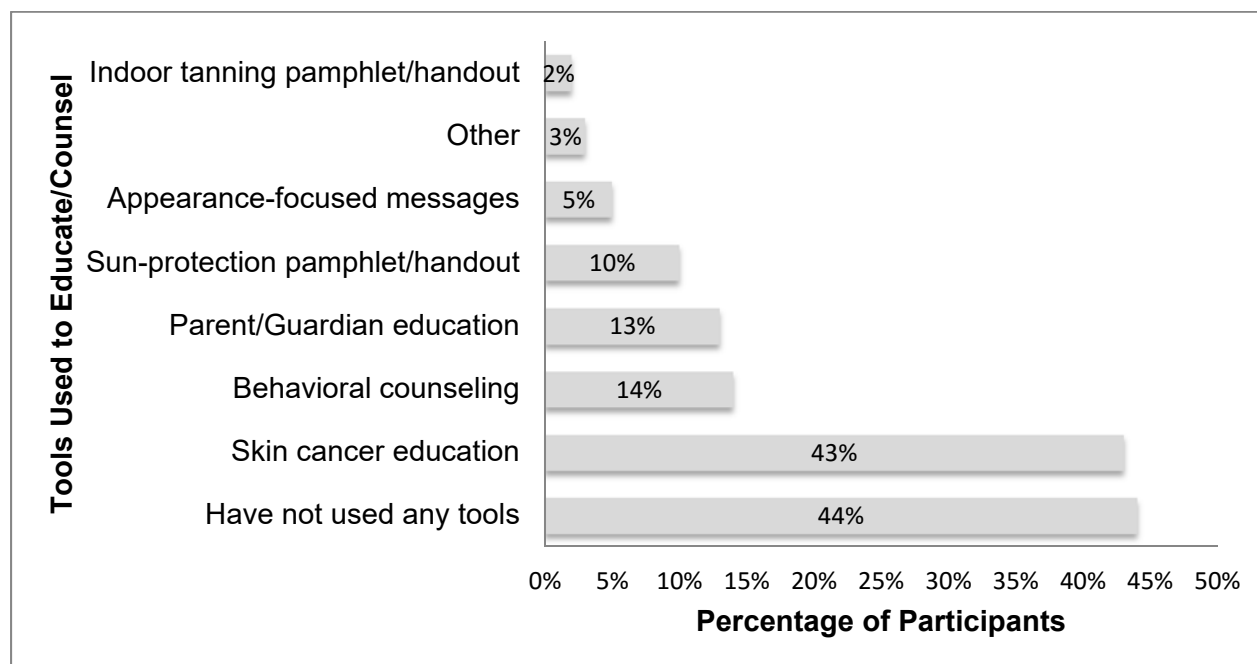


Figure 5. NPs were asked to mark which tools they utilize to address or educate adolescents regarding indoor tanning (n = 174). Respondents could select all that applied.

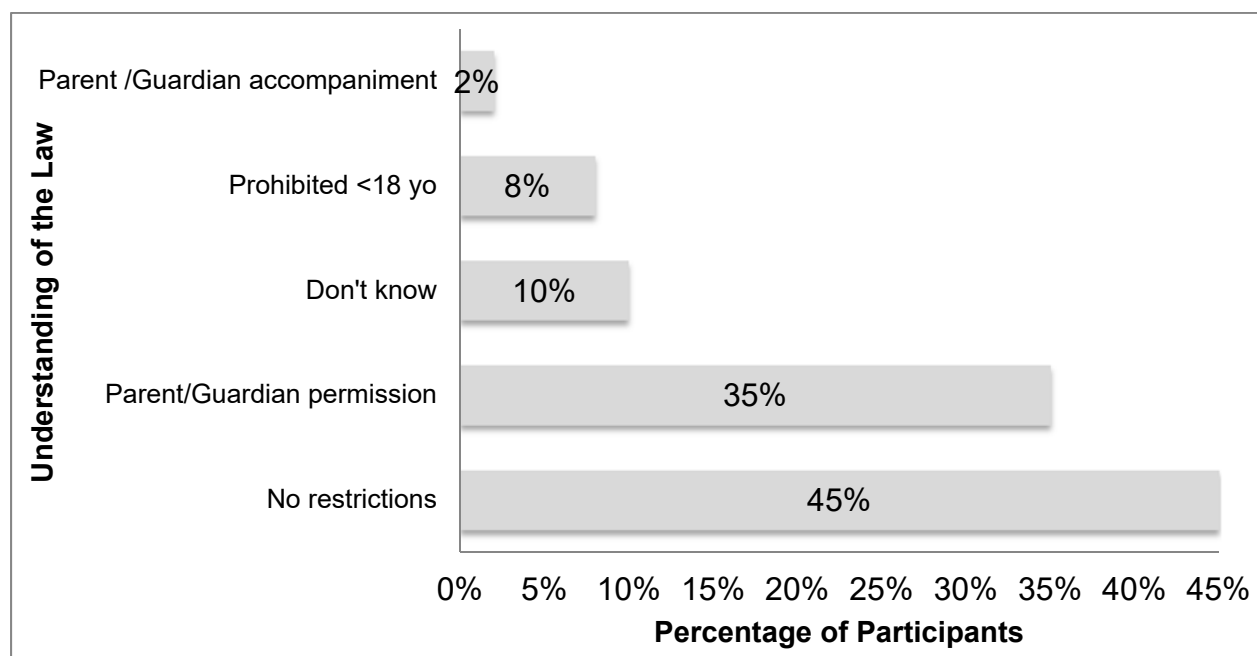


Figure 6. NPs were asked to specify which response indicated their understanding of the current indoor tanning law in Alaska (n = 168).

Discussion

Provider Practice

Despite the known risks associated with IT, Alaska NPs do not sufficiently address IT with adolescent patients and their parents/guardians. More than half of NPs do not ask about IT use and do not educate adolescents or their parents/guardians regarding the risks associated with IT. Additionally, only about 10% did so as part of their routine well-child exams as is recommended by guidelines (Alberta Health Services, 2016; U.S. DHHS, 2014; Moyer, 2012).

Barriers to Education

Real or perceived barriers can influence provider practices. Additionally, priorities at clinical visits and guidelines can impact practice decisions. Responding NPs primarily agreed that there were no significant barriers and also felt that the topic was of low priority compared with other topics or within their geographic region. Roebuck et al. (2015) found that time was the number one barrier to providing SC education; therefore, it is interesting that time was not perceived as a major barrier by of the respondents of this survey.

Tools used for Education

There is a need for Alaska NPs to increase utilization of evidence-based education and counseling tools. Few NPs use parent/guardian education, appearance-focused messages, or pamphlets and handouts and those that used tools overwhelmingly focused on SC education; yet, numerous studies show that other counseling methods are more successful. The life course epidemiologic perspective looks at the relationship between risk factors and later adverse health outcomes and explains that adolescents are particularly vulnerable due to the

significant latency period between exposure or initiation of high-risk behaviors and adverse outcomes related to exposure accumulation (Santelli, Sivaramakrishnan, Edelstein, & Fried, 2013). For this reason, education should focus on behavior change and appearance-focused messages for prevention.

The use of appearance-focused messages has been utilized effectively in several studies. By focusing on the benefits of avoiding IT rather than scare tactics, these studies reduced tanning behaviors by 33 to 50% in college-aged females. Another method focused on was improving one's appearance by exercising, maintaining a healthy weight, wearing clothing that does not require a tan, and using sunless tanning products (Hillhouse et al., 2008; Stapleton et al., 2010). The CDC (2016a) also recommends educating adolescents about premature skin aging, wrinkles, age spots, and skin texture changes associated with IT. These are examples of messages NPs can utilize to educate adolescents and to encourage IT behavior change.

UV-filtered photography has also been used to demonstrate the negative impact of sun exposure on the skin by utilizing photos to reveal damage caused by UVR that is otherwise invisible. UV-filtered photos reduced IT usage in a comparative study of college students (Gibbons, Gerrard, Lane, Mahler, & Kulik, 2005) as well as among nursing students (Siegel, 2010). A meta-analysis also found a significant increase in protective behaviors even one-year post UV-filtered photography interventions (Horsham et al., 2014). This technique does require access to either a UV filtered camera or video however it could be a valuable tool used to influence patients.

Past research (Cohen et al., 2013; Mayer, 2011) has concluded that parents/guardians have the strongest influence on adolescent IT practices. Still, the majority of NPs in this project almost never or only occasionally educated parents or guardians regarding IT. NPs should educate parents/guardians about the impact they make by modeling healthy behavior by not IT themselves, by expressing their lack of consent, and by restricting adolescent use of IT. The Melanoma Research Foundation (MRF)(2016c) offers a parent's guide to prevention, *A Parent's Guide to Reducing the Risk of Melanoma* (see Appendix D), which addresses IT, base tanning, and vitamin D as part of a comprehensive sun protection approach and is a valuable tool.

The CDC offers an educational tool for adolescent counseling, *the Truth about Tanning: Your natural skin color is great the way it is!* (see Appendix E); this handout covers the four main myths and truths of IT in a colorful infographic and discusses the risks associated with IT (CDC, 2016b). Additionally, three other useful tools are available. *The Truth about Tanning: There is no such thing as a "safe tan"* (see Appendix F), is a postcard discussing four points regarding the dangers of indoor tanning (MRF, 2016e), *It's a Fact!* (see Appendix G), is a bookmark highlighting eight facts about melanoma, one of which specifically addresses IT (MRF, 2016a), and *The Facts* (see Appendix H), is a handout reviewing five points on SC including IT, appearance associated changes, and the risk of melanoma associated with IT and is an excellent educational tool (MRF, 2016b).

Additionally, to further encourage commitment in adolescents who have a history of IT, a pledge form, *Take a Stand, Don't Tan! Pledge* (Appendix I), can be utilized to review

associated risks and with which the adolescent pledges to avoid tanning beds to protect themselves from SC (MRF, 2016d).

Awareness and Opinion Regarding Indoor Tanning Law

Currently, there are no IT restrictions in Alaska. For that reason it is concerning that the majority of survey respondents were either unaware of current Alaska IT law or inaccurately believed that restrictions were in place to control adolescent IT. An incorrect perception of current IT restrictions could potentially affect provider practices regarding adolescent IT. The CDC found that IT rates among female adolescents were 42% lower in states with multiple access restrictions than in states with no laws and that age restriction was particularly effective in reducing IT frequency in female HS students (Guy et al., 2014). The results of this project show that the majority of NPs who responded to this survey would support an IT ban for minors in Alaska. The outcome of the FDA proposed rules is unknown at this time (U.S. FDA, 2015). If the FDA does not pass an indoor tanning restriction for minors, a leadership organization in the state such as the Alaska Nurse Practitioner Association, along with a responsive legislator, are the ideal candidates to spearhead legislation utilizing the AIM at Melanoma's Indoor Tanning Legislation campaign that has successfully helped pass IT bans in many other states (AIM at Melanoma Foundation, 2014). Even if an FDA or state IT ban were passed, enforcement will remain a challenge and adequate education is the key to adolescent behavioral change.

Limitations

Adolescents made up less than 10% of the client population of almost half of the NPs that responded to the survey creating a confounding limitation. Moreover, the survey tool

utilized for this project was not formally validated. Because the respondents account for only 27% of the convenience sample of NPs in Alaska, and because it is possible that those with the most interest in IT were more likely to respond, generalizability was limited.

Dissemination Plan

A project poster presentation application was submitted to the Alaska Nurse Practitioner Association (ANPA) in May of 2016 for participation at the conference in September of 2016. Handouts will be disseminated at the poster presentation including, the educational handouts and posters currently available from the CDC and the NRF which providers can utilize for adolescent as well as guardian indoor tanning education (see Appendices D, E, F, G, H & I). A manuscript will be submitted to the local Alaska Nurse publication and to The Nurse Practitioner journal in order to share project findings with local providers.

Conclusions/Recommendations

Based on current guidelines, the review of the literature, available tools, and the findings of this project, recommendations are for NPs in Alaska to ask and educate adolescents about IT use during primary care visits discussing the multiple risks associated with IT, to utilize appearance-focused messages or UV-filtered photography if available, providing handouts or contracts for reinforcement, and encouraging healthy appearance enhancing alternatives to IT. Parental/guardian education is a vital component of adolescent education and should, like other anticipatory guidance begin early and occur consistently at supervised visits. Additionally,

flyers or posters can be displayed within practices to initiate IT discussion with adolescents or parents/guardians.

An IT ban, either at the federal or state level, would further reduce adolescent IT rates. The most influential alteration for NP practice would be an inclusion of IT assessment and education in the American Academy of Pediatrics Bright Futures Previsit Questionnaire, Guidelines, and Pocket-Guide. Additionally, Alaska should include the IT use question in subsequent state-based Youth Risk Behavior Surveys in order to collect data regarding the prevalence of adolescent IT locally. Current evidence about IT facility density both in Anchorage, and for the state of Alaska, would provide further information about the availability of and access to IT facilities. Both future research and a systematic analysis are needed to address the types of behavioral counseling and educational tools most effective in reducing adolescent IT rates.

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Appendix A

Nurse Practitioner Survey

1. What is your understanding of the indoor tanning law in Alaska?

- ☐ Prohibits minors under the age of 18 from indoor tanning
- ☐ Requires parent/guardian permission
- ☐ Requires parent/guardian accompaniment
- ☐ No restrictions exist

2. Please indicate the frequency with which you do the following.

	Almost Never	Occasionally	Frequently	Almost Always	N/A
How often do you educate your adolescent patients regarding the importance of sunblock?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you ask your adolescent patients about indoor tanning use?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you educate your adolescent patients regarding the dangers of indoor tanning?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you educate the parents/guardians of your adolescent patients regarding the dangers of indoor tanning?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Please mark the response that best reflects your opinion.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
Educating/Counseling my adolescent patients can influence their indoor tanning behaviors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I agree that indoor tanning is a priority health concern in adolescents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would support an indoor tanning ban for minors in Alaska	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. What prompts you to inquire/counsel adolescents about indoor tanning?

Select all that apply

- ☐ Part of my routine exam or well-child visit
- ☐ Doing a skin assessment
- ☐ Noticing a visible sunburn or unusually tan skin
- ☐ Adolescents or parents/guardians asking about indoor tanning
- ☐ Upcoming special event such as prom, homecoming, or a vacation
- ☐ I don't usually inquire about indoor tanning
- ☐ Other (please specify)

5. What barriers prevent you from inquiring/counseling adolescents regarding indoor tanning?

Select all that apply

- ☐ Time is too limited
- ☐ Low priority: There are too many other more important topics to cover
- ☐ Low priority in our geographic area or state
- ☐ There are no guidelines or recommendations to address indoor tanning
- ☐ Lack of adequate tools for counseling or education
- ☐ Education is not likely to change the behavior of adolescents
- ☐ Fear of alienating patients
- ☐ There are no significant barriers
- ☐ Other (please specify)

6. Which tools have you utilize to address/educate adolescents regarding indoor tanning?
Select all that apply.

- ☐ Skin cancer education
- ☐ Behavioral counseling
- ☐ Appearance-focused messages such as UV filtered photography
- ☐ Indoor tanning specific pamphlet/handout
- ☐ Generic sun-protection pamphlet/handout
- ☐ Parent/guardian education
- ☐ None/I have not used any tools
- ☐ Other (please specify)

Demographic Information

7. Are you male or female?

- ☐ Male
- ☐ Female

8. What is the highest degree you have received?

- ☐ Bachelors
- ☐ Masters
- ☐ Doctorate
- ☐ Other (please specify)

9. Do you currently practice as a nurse practitioner?

- ☐ Yes
- ☐ No

10. How many years have you been in practice?

11. What is your current work setting? Select all that apply

- ☐ Family Practice
- ☐ Acute care/Urgent care
- ☐ Pediatrics
- ☐ Dermatology
- ☐ Women's Health
- ☐ Adult-Gerontology
- ☐ Psych/Mental health
- ☐ Academic

Other (please specify)

12. Please estimate the percent of your client population that are adolescents.

- ☐ <10%
- ☐ 10-25%
- ☐ 25-50%
- ☐ 50-75%
- ☐ 75-100%
- ☐ Other (please specify)

13. Where is your practice location?

- ☐ Urban (i.e. Municipality)
- ☐ Suburban (i.e. Borough)
- ☐ Rural community ON road system
- ☐ Rural community OFF road system
- ☐ Other (please specify)

14. What is the predominant race/ethnicity of the patients in your current practice?

- ☐ American Indian or Alaska Native
- ☐ Asian or Pacific Islander
- ☐ Black or African-American
- ☐ Hispanic American
- ☐ White or Caucasian
- ☐ From multiple races

Some other race (please specify)

15. Is there/Are there indoor tanning facilities in the city, town, or village in which you practice?

- ☐ Yes
- ☐ No
- ☐ Unsure/Don't Know

Thank you for your time.

Appendix B
Survey Cover Letter

Dear Participant,

I invite you to participate in my graduate project entitled: Nurse Practitioner Practices Regarding Adolescent Indoor Tanning. I am a student in the Family Nurse Practitioner Program at the University of Alaska Anchorage. The aim of the project is to determine nurse practitioner practices regarding adolescent indoor tanning including, perceptions, barriers, and understanding of current Alaska state laws. The purpose is to determine a need for improved practice and, if indicated, to provide evidence-based tools aligned with clinical recommendations.

Your participation in this project is completely voluntary. Consent for participation is implied with the completion and return of this survey. You may decline to participate, or leave any questions blank. There are no foreseeable risks to your participation and your responses will remain confidential and anonymous. No identifying information is being collected. Data from this research will be kept locked and only the researchers will see individual survey answers.

If you agree to participate in this project, please complete the survey as best as you can. It should take approximately 10 minutes to complete. Please return the questionnaire within a month of receiving it in the enclosed preaddressed and stamped envelope.

If you have any questions about this project, please contact Dr. Maureen O'Malley, Project Chair at 907-786-4584. If you have questions about your rights as a research participant, please contact Sharilyn Mumaw, UAA Research Compliance Officer at (907) 786-1099.

Thank you for your assistance in this important professional milestone.

Sincerely,

Monica Perez-Verdia, RN, BSN, FNP-Student
907-521-2134
mperezverdia@alaska.edu
Principal Investigator

Dr. Maureen O'Malley, PhD, RN
UAA School of nursing
907-786-4584
momalley@uaa.alaska.edu
Project Chair

Appendix C**Survey Consent Form****PRINCIPAL INVESTIGATOR:**

Monica Perez-Verdia
RN, BSN, FNP-Student
University of Alaska Anchorage

PROJECT CHAIR:

Dr. Maureen O'Malley
PhD, RN, UAA School of Nursing Faculty
907-786-4584
momalley@uaa.alaska.edu

DESCRIPTION:

You are being asked to participate in my Master of Nursing graduate student project to describe your practices and thoughts about adolescent indoor tanning. If you agree to participate you will complete the survey and return it to us in the attached postage-paid envelope. Your participation will require 10 to 15 minutes to complete the survey.

VOLUNTARY NATURE OF PARTICIPATION:

Your participation in this project is voluntary. You may stop at any time and you do not have to answer any questions you don't want to. Nothing will happen to you if you choose not to answer any questions or if you decide not to return the survey.

CONFIDENTIALITY:

Your name will not be attached to your survey responses. Your name and any other identifiers will be kept in a locked file that is only accessible to me or my research associates. Any information from this project that is published will not identify you by name or contain any identifiers.

BENEFITS:

There will be no direct benefit to you from participating in this project. However, your willingness to share your perceptions and practices may provide valuable information for improving nurse practitioner professional practices regarding adolescent indoor tanning.

RISKS:

There are no foreseeable risks from your participation in this project.

CONTACT PEOPLE:

If you have any questions about this research, please contact the project chair, Dr. Maureen O'Malley at phone number 786-4584. If you have any questions about your rights as a research subject, please contact Sharilyn Mumaw, the UAA Research Compliance Officer, at (907) 786-1099.

SIGNATURE:

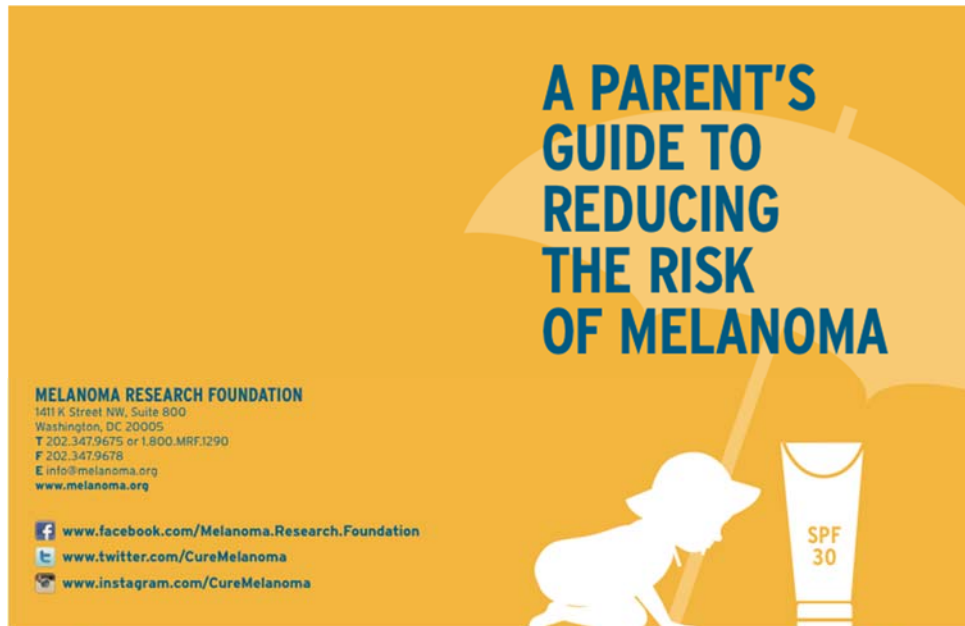
Consent will be implied with the completion and return of the survey indicating that you fully understand the above project, what is being asked of you, and that you are participating voluntarily. If you have any questions about this project, please feel free to ask them at any time.

Consent will be implied with the completion and return of the survey.

Please keep this consent form for your records.

Appendix D

A Parent's Guide to Reducing the Risk of Melanoma



Appendix D Continued

A PARENT'S GUIDE TO REDUCING THE RISK OF MELANOMA



Melanoma is the deadliest form of skin cancer. It is the second most common form of cancer in adolescents and young adults. It is the leading cause of cancer death in young women.

MELANOMA KILLS ONE PERSON EVERY HOUR OF EVERY DAY IN THE U.S.

NEARLY

90%

OF MELANOMAS ARE CAUSED FROM TOO MUCH EXPOSURE TO ULTRAVIOLET (UV) RAYS – EITHER FROM THE SUN OR FROM ARTIFICIAL SOURCES LIKE TANNING BEDS.



AS A PARENT, YOU CAN MAKE A DIFFERENCE !



Just like you protect your baby in a car seat or safe crib, be sure to protect your baby from UV rays.

STAY IN THE SHADE AND USE PROTECTIVE CLOTHING, LIKE HATS AND LONG SLEEVES, WHEN ENJOYING TIME OUTDOORS.

Sunscreen is not recommended for babies under six months.

10 AM

Try to keep your child out of direct sunlight, especially between the hours of 10 am – 4 pm, when UV rays are strongest.



4 PM

SUNSCREEN

can help prevent skin cancer and early aging. But remember, sunscreen is only one way to protect your child from too much UV exposure. Arm your child with a hat, sunglasses and protective clothing when playing outside. Start talking to your child early about ways to be safe in the sun!



SKIN DAMAGE

from UV exposure cannot be reversed. It takes only one blistering sunburn, especially at a young age, to more than double a person's chances of developing melanoma later in life.



The safety of sunscreen has been studied extensively in many scientific settings. It is overwhelmingly clear that sunscreen is safe and effective when used as directed.

Teens may have a difficult time practicing sun safety. Having a tan for prom or spring break can be tempting for a teen. Talking to your teen about the dangers of tanning is just as important as talking about seat belts and tobacco use. Like tobacco smoke, UV radiation is a **KNOWN CARCINOGEN**. That means it can cause cancer! Not to mention skin damage and wrinkles.

WHAT ABOUT VITAMIN D?

Don't worry! Several large, scientific studies reflecting real-life conditions have proven that sunscreen use does not cause vitamin D deficiencies.

TANNING BEDS DO NOT HELP WITH VITAMIN D PRODUCTION.



THE BOTTOM LINE

No tan is worth your child's life. The earlier you let your child know they are beautiful in the skin they were born in, the easier it will be for them to confidently say NO to tanning!



QUICK TIPS FOR PARENTS

- Sunscreen is safe for children over the age of six months.
- Use broad spectrum sunscreen with SPF of at least 30 every day.
- Be sure to cover all exposed skin – don't forget the lips, ears, hands, feet and the back of the neck.
- Reapply sunscreen every two hours – but more often when swimming or sweating.
- Protect your child with a wide-brimmed hat, long sleeves and sunglasses.
- Encourage your child to play in the shade whenever possible, especially between 10 am – 4 pm.
- Discourage all forms of intentional tanning – this applies to both natural and artificial UV sources.
- Start talking to your child at a young age about being proud of the skin they were born in!

FOR MORE INFORMATION, PLEASE CALL (800) 673-1290 OR EMAIL INFO@MELANOMA.ORG.

Appendix E

The truth About Tanning: Your Natural Skin Color is Great the Way it is!

the Truth about Tanning

Your natural skin color is great the way it is!

Myth "I have to get a tan to look good."

Truth You should know your skin will pay a price!

Myth "Only old people get cancer."

Truth Young women are getting skin cancer more often. The risk is real!

Myth "Having a good 'base tan' will protect my skin from the sun."

Truth A tan is a sign of damaged skin.

Myth "Tanning beds are a good way to get vitamin D."

Truth Tanning beds are risky, and most people get enough vitamin D from food and sunlight during daily activities.

Every time you tan, you increase your risk of melanoma.

Melanoma—the deadliest kind—is the third most common cancer in people from 15 to 39. You can get melanoma in your eyes.

If the tanning bed isn't clean, you could pick up a serious skin infection with symptoms like:

- Genital warts
- Skin rashes
- Skin warts
- Flaky, discolored patches on your skin

Fine Lines and Wrinkles

Cataracts

Sagging Skin

Brown Spots

QR Code

National Center for Chronic Disease Prevention and Health Promotion
Division of Cancer Prevention and Control

CDC

Appendix F

The truth about tanning: There is no such thing as a “safe tan”



Is tanning really dangerous?

Any tan that comes from the sun or from a tanning bed is dangerous. Tanned skin is actually a result of damage to the skin cells. Too much ultraviolet (UV) exposure, either from the sun or from a tanning bed, is thought to cause as many as 90% of melanomas, the most serious form of skin cancer. Too much UV exposure can also lead to premature wrinkles and age spots. Yikes!

What if I just tan for prom or spring break?

Getting a “base tan” before prom or vacation provides you with almost no sun protection — the equivalent to about SPF 3. Tanned skin isn't the same as healthy skin. In fact, just the opposite is true. Tanning to protect yourself from skin cancer is like smoking to protect yourself from lung cancer! Understanding the risks of too much UV exposure may help protect you and your loved ones from a skin cancer diagnosis.

Still not convinced?

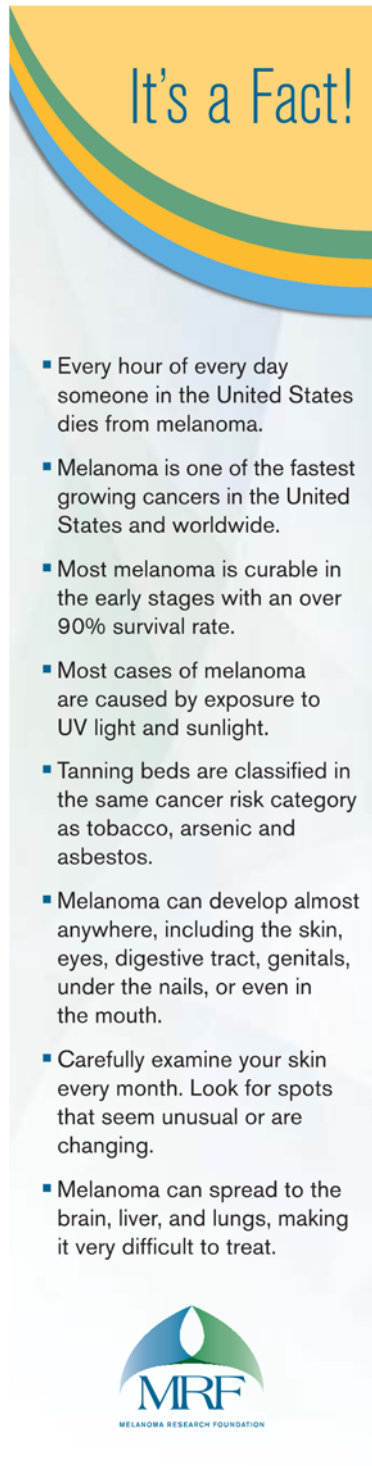
Just ONE blistering sunburn can double your chances of developing melanoma, and using tanning beds before age 30 increases your risk by a whopping 75%! Research suggests that the more UV exposure you get throughout your life, the higher your risk of developing melanoma and other types of skin cancer — so it's never too late to stop tanning. Some countries, like Australia and Brazil, have completely outlawed tanning beds.

Cancer is something “older” people get, right?

Sadly, melanoma is the second most common form of cancer for young people 15–29 years old and the most common form of cancer for people 25–29 years old. It is also the leading cause of cancer death in women 25–30 years old. Melanoma is so dangerous because of its ability to spread throughout the body.


MELANOMA RESEARCH FOUNDATION
1411 K Street NW, Suite 800
Washington, DC 20005
1.800.MRF.1290 or 202.347.9675
www.melanoma.org



Appendix G**It's a fact!**

It's a Fact!

- Every hour of every day someone in the United States dies from melanoma.
- Melanoma is one of the fastest growing cancers in the United States and worldwide.
- Most melanoma is curable in the early stages with an over 90% survival rate.
- Most cases of melanoma are caused by exposure to UV light and sunlight.
- Tanning beds are classified in the same cancer risk category as tobacco, arsenic and asbestos.
- Melanoma can develop almost anywhere, including the skin, eyes, digestive tract, genitals, under the nails, or even in the mouth.
- Carefully examine your skin every month. Look for spots that seem unusual or are changing.
- Melanoma can spread to the brain, liver, and lungs, making it very difficult to treat.



MRF
MELANOMA RESEARCH FOUNDATION

Appendix H

The Facts



1 **There's no such thing as a "safe" or "healthy" tan.**
 Don't get tricked by tanning salons talking about vitamin D and a "healthy glow." You can get all the vitamin D you need from a healthy diet or vitamin supplement (that won't give you cancer).
Tanning to get vitamin D is like smoking cigarettes to relax!

2 **Tanning can make you look old!**
 Every time you tan, you speed up your body's wrinkling process, so people will think you're a "cougar" when you're out with your guy, instead of his hip, hot girlfriend.
Who wants to look leathery and shriveled when you're young and gorgeous?!

3 **Tanning and melanoma – joined at the hip!**
 OF COURSE the tanning industry is going to say that there's no link between tanning and melanoma – they're trying to make money! The fact is, using tanning beds before age 30 increases your risk of developing melanoma by 75 percent.
Just one blistering sunburn can double your chances of developing melanoma. Does that sound like a "healthy" tan to you?

4 **Skin cancer doesn't wait for you to get old to strike.**
 Melanoma is the second most common type of cancer in teens and young adults and is the leading cause of cancer death in women 25 to 30 years old.
Increasing skin cancer rates is NOT the trend you want to keep up with.

5 **Skin cancer – not just for blondes and redheads!**
 Melanoma doesn't discriminate – it strikes men and women of all ages, races and skin tones. In fact, reggae musician Bob Marley died in 1981 of melanoma at the age of 36.
Regardless of your skin color, you have an increased chance of developing melanoma if you've got a lot of moles (more than 50).

MELANOMA RESEARCH FOUNDATION
 1411 K Street NW, Suite 800
 Washington, DC 20005
 1.800.MRF.1290 or 202.347.9675
www.melanoma.org



 www.facebook.com/Melanoma.Research.Foundation
 www.twitter.com/CureMelanoma

Appendix I**Take a Stand, don't Tan! Pledge****Take a Stand, Don't Tan! Pledge****I HAVE DECIDED TO TAKE A STAND!**

- Because I know that just one blistering sunburn can double my chances of developing melanoma later in life.
- Because I know that the tanning industry makes about \$5 billion each year and makes false claims about tanning beds being healthy for me.
- Because I don't need a tan to look good.
- Because melanoma is the most common form of cancer in young adults (25-29 years old) and the second most common cancer in adolescents and young adults (15-29 years old).
- Because in 2009 the World Health Organization moved tanning beds into its highest cancer risk category – “carcinogenic to humans”.
- Because I know that using tanning beds before age 35 increases my risk of developing melanoma by 75 percent and occasionally using tanning beds can triple my chances.
- Because, even though it is dangerous, indoor tanning has become so popular that there are more than 60,000 tanning salons in the United States – compare that to 11,000 Starbucks stores and 12,000 McDonald's restaurants.

I, _____, on this day, _____, do hereby
pledge that I will avoid tanning in the sun or in tanning beds so that I
can protect myself from melanoma and other types of skin cancer.



To take this pledge online or to get more involved, please visit www.melanoma.org!